

The results of the demand capacity and facility requirements analysis showed that the existing MAG system is projected to experience deficiencies in its ability to accommodate projected aviation demand through 2025. To resolve these deficiencies, alternatives are developed and evaluated. This working paper outlines the identified deficiencies, as well as potential alternatives to address the deficiencies.

The existing system's deficiencies include the following (to be described in full chapter):

- ☐ Airside Capacity
- ☐ Runway Length Requirements
- ☐ Runway Width Requirements
- ☐ Runway Strength Requirements
- ☐ Parallel Taxiway Requirements
- ☐ Navigational Aid (NAVAID) Requirements
- ☐ Aircraft Storage Requirements
- ☐ Commercial Space Requirements

Four alternative scenarios were initially identified for preliminary evaluation. These four alternatives are presented in outline format as follows:

1. Do-Nothing

- ☐ Status quo alternative
- ☐ Assumes that projects programmed in ADOT's most recent CIP are implemented
- ☐ Provides a base case for comparison to other alternative scenarios
- ☐ Assumes existing regulations, ordinances, technology, and facilities remain in place
- ☐ Assumes implementation of Northwest 2000

2. Improved Technology

- ☐ Most significant deficiency is operational capacity at many airports
- ☐ FAA's capacity benchmark analysis indicates a potential increase in operational capacity due to the implementation of technological and procedural improvements anticipated over the next 10 years
- ☐ Improvements to technology will be evaluated as they relate to each airport
- ☐ Most relevant to commercial service airports in system

3. Maximized Development of Existing System

- ☐ Evaluate which airports can accommodate additional runways to improve the region's operational capacity, a key deficiency of the existing system, including Phoenix-Sky Harbor's fourth runway
- ☐ Recognize some existing constraints and analyze the feasibility of improvements (Scottsdale & Mesa)
- ☐ Assume all projects identified in ADOT's most recent CIP are implemented
- ☐ Assume all airports will meet standards and will develop needed facilities to accommodate projected demand through 2025
- ☐ Determine policies in place that restrict airport development in the region

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#### 4. New Airport Development (general aviation and/or commercial service)

- ❑ Assumes no new runways at existing airports
- ❑ Will review previous study results for proposed new airports in Northwest, Southeast, and Northeast portions of the region
- ❑ Reassign portion of demand from other airports to new airport(s) to determine facility needs of existing airports

The alternatives will be evaluated based on the following factors:

- ❑ Environmental consequences (especially noise and air quality impacts, as determined on system planning level of detail)
- ❑ Cost of alternative
- ❑ Delay impacts (improvement and costs of delay)
- ❑ User convenience
- ❑ Access improvement needs
- ❑ Airspace compatibility
- ❑ Ease of implementation
- ❑ Title VI impacts (as available from existing documentation)

A matrix format will be prepared for comparison and evaluation of the alternatives. Narrative discussion of each alternative and a description of the alternative's impact on the airports will also be provided.

The alternatives analysis will be based on the projections of demand contained in Working Paper Number 2. Deviations from the projections, including slower the projected growth or higher than projected growth, will be evaluated after the recommended system has been identified as part of the sensitivity analysis.